# ARShadowGAN: Shadow Generative Adversarial Network for Augmented Reality in Single Light Scenes

Year: 2020 | Citations: 119 | Authors: Daquan Liu, Chengjiang Long, Hongpan Zhang, Hanning Yu, Xinzhi Dong

---

## Abstract

Generating virtual object shadows consistent with the real-world environment shading effects is important but challenging in computer vision and augmented reality applications. To address this problem, we propose an end-to-end Generative Adversarial Network for shadow generation named ARShadowGAN for augmented reality in single light scenes. Our ARShadowGAN makes full use of attention mechanism and is able to directly model the mapping relation between the virtual object shadow and the real-world environment without any explicit estimation of the illumination and 3D geometric information. In addition, we collect an image set which provides rich clues for shadow generation and construct a dataset for training and evaluating our proposed ARShadowGAN. The extensive experimental results show that our proposed ARShadowGAN is capable of directly generating plausible virtual object shadows in single light scenes. Our source code is available at https://github.com/ldq9526/ARShadowGAN.